

WHAT IS CLAIMED:

1. A method of performing a handoff in a mobile communication system, comprising:

modulating data of a non-full rate frame having at least one repeated symbol by a first base station at a prescribed energy transmission level;

generating a searching period by reducing a number of repeated symbols while maintaining the prescribed energy transmission level by increasing an average symbol energy level in a forward link; and

searching frequency information of at least one second base station by a mobile terminal during the searching period to perform a handoff.

2. The method of claim 1, wherein the base station controls the power level of the non-full rate frame of the forward link prior to generating the searching period.

3. The method of claim 1, wherein the base station increases the forward link power of the non-full rate frame prior to generating the searching period.

4. The method of claim 3, wherein the average symbol energy during the non-full rate frame is increased prior to generating the searching period.

5. The method of claim 1, wherein said modulating step further comprises

controlling an energy per modulation symbol.

6. The method of claim 5, wherein the energy per modulation symbol is increased.

7. The method of claim 5, wherein the modulating step further comprises controlling a position of the symbol.

8. The method of claim 7, further comprising controlling a form of a transmitting period with a variable rate characteristic of the transmission frame.

9. The method of claim 8, wherein said modulating step further comprises controlling an energy per information bit of the symbol.

10. The method of claim 1, wherein said modulating step further comprises controlling a position of the symbol.

11. The method of claim 1, further comprising controlling a form of a transmitting period with a variable rate characteristic of the transmission frame.

12. The method of claim 1, wherein the repeat time is an integer number of repetitions.

13. The method of claim 1, wherein the modulated data is non-compressed.

14. The method of claim 1, wherein a transmission length of the frame is shortened from a first length by reducing the number of symbol repetitions and wherein the inserted search period reconstructs the frame to the first length.

15. The method of claim 1, wherein the at least one repeated symbol is identical to at least one other transmitted symbol.

16. A method for providing a handoff in a mobile communication system, comprising:

modulating data by a base station into a non-full rate frame having at least one repeated symbol period by controlling an energy transmission level;

forming a non-transmitting period within the modulated frame at the base station by reducing a number of repeated symbols and increasing an average symbol

energy during the modulated frame; and

searching frequency information of a peripheral base station during the non-transmitting period to perform a handoff and transmitting the searched information to a transmitter of the base station.

17. The method of claim 16, wherein modulating data further comprises increasing an average symbol energy within the modulated frame prior to forming the non-transmitting period.

18. The method of claim 16, wherein the energy transmission level is controlled on the forward link prior to forming the non-transmitting period.

19. The method of claim 16, wherein a non-transmitting period is inserted into the transmission frame by controlling the number of repeated symbols based on the transmission symbol energy.

20. The method of claim 16, wherein said non-transmitting period of said transmission frame is inserted in a random pattern through a variable rate limitation method.

21. The method of claim 20, wherein said random pattern is any one of a half rate, a quarter rate, and an eighth rate.

22. The method of claim 16, wherein said non-transmitting period of said transmission frame is a frequency searching period.

23. The method of claim 22, wherein a starting point of said frequency searching period is modularly increased in a length unit of a transmitting period.

24. The method of claim 22, wherein a starting point of said frequency searching period is alternately changed to a front part and a rear part of a frame to maximize the frequency searching period.

25. The method of claim 16, wherein the non-transmitting period is formed based on a form of a transmitting period with a variable rate characteristic.

26. The method of claim 16, wherein the number of repetitions is an integer.

27. A method for providing a handoff in a mobile communication system, comprising:

controlling an energy level of symbols in a non-full rate transmission frame on a forward link at a first base station;

generating a non-transmitting period in the frame of the first base station by reducing a number of repetitions of a transmission symbol in a pre-transmission frame and at least one of a position and form of a transmitting period; and

searching a second base station signal of a different frequency during the non-transmitting period by a mobile station that has received the transmission frame.

28. The method of claim 27, wherein controlling the energy level comprises increasing an average symbol energy within the frame prior to forming the non-transmitting period.

29. The method of claim 27, wherein said non-transmitting period of said transmission frame is a frequency searching period.

30. The method of claim 27, wherein the mobile station transmits a signal to the second base station to perform the search for the second base station.

31. The method of claim 27, wherein the number of repetitions is an integer.

32. The method of claim 27, wherein the transmission frame has the same energy level as the pre-transmission frame.

33. The method of claim 27, wherein data comprising the frame is limited to non-compressed data.

34. A mobile communication system, comprising:
a base station configured to modulate data into a non-full rate transmission frame having at least one repeated symbol and a prescribed transmission energy level, said base station forming a non-transmitting searching period by reducing a number of repetitions and controlling the prescribed transmission energy level; and
a terminal configured to search frequency information during the non-transmitting searching period for performing an inter-frequency handoff and to transmit the searched frequency information to said base station.

35. The system of claim 34, wherein controlling the energy level comprises increasing an average symbol energy within the frame prior to forming the non-transmitting period.

36. The telephone system of claim 34, wherein said base station comprises:
a modulator that modulates the data to the prescribed energy level of the

transmission frame;

a gain control element that inserts the non-transmitting period into the transmission frame; and

a transmitter coupled to said gain controller to transmit the transmission frame.

37. The system of claim 34, wherein said terminal comprises:

a receiver that receives the transmission frame;

a demodulator coupled to demodulate the received transmission frame; and

a frequency synthesizer that varies a frequency during the non-transmitting period and searches the frequency information of a peripheral base station having a different frequency to perform a handoff.

38. The system of claim 34, wherein the number of repetitions is an integer.

39. The system of claim 34, wherein the prescribed transmission energy is determined based on an inverse proportion of a number of repetitions of a transmission symbol, and at least one of a position and form of a transmitting period with a variable rate characteristic of the transmission frame.

40. A method of performing a handoff in a mobile communication system,

comprising:

modulating data of a non-full rate frame having at least one repeated symbol by a first base station at prescribed energy transmission level;

generating a searching period by reducing a portion of the non-full rate frame while maintaining the prescribed energy transmission level by increasing an average symbol energy during the modulated frame in a forward link; and

searching frequency information of at least one second base station by a mobile terminal during the searching period to perform a handoff.

41. A method of performing a handoff in a mobile communication system, comprising:

modulating data of a non-full rate frame having at least one repeated symbol at a prescribed energy transmission level;

generating a searching period by non-transmitting a portion of the non-full rate frame while maintaining the prescribed energy transmission level by increasing an average symbol energy during the modulated frame; and

searching frequency information of at least one second base station during the searching period to perform a handoff.